

STEENBAKKERS et al
Serial No. 10/582,992
April 15, 2009

AMENDMENT TO THE DRAWINGS

The attached replacement sheet of drawings includes changes to Figures 1a and 1b. The replacement sheet, which includes Figures 1a and 1b, replaces the comparable sheet of drawings as filed originally.

Attachment: 1 Replacement Sheet – Figure 1a and Figure 1b

REMARKS

Favorable reconsideration and allowance of this application are requested.

1. Discussion of Specification and Claim Amendments

By way of the amendment instructions above, the prior pending claims have been amended as to form only, for example, by using affirmative tense language for all process steps recited in claim 1 and changing the preamble expression to be more closely aligned with US practice.

Claims 9-12 are new and are based on the disclosure appearing on page 4, line 4 through page 5, line 32 as well as originally filed Figure 1a.

Thus, following entry of this amendment, claims 1-12 will remain pending herein for which favorable action on the merits is solicited.

The specification has been revised for purpose of clarity. For example, it will be observed that appropriate application headings have been inserted into the specification. In addition, citation to the Dutch patents has been changed to reflect their published English-language counterparts, i.e., EP 0 429 137 in the case of NL 8902879 and US Patent 6,547,489 in the case of NL 1014573.¹

2. Response to Drawing Objections

A replacement sheet of drawings comprising revised versions of Figures 1a and 1b is being submitted concurrently herewith to address the noted objections raised by the Examiner and to cure certain other noted informalities.

¹ The EP '137 publication is already of record herein by way of the Information Disclosure Statement dated June 15, 2006, whereas US '489 is of record by way of its published application counterpart (i.e., US 2001/0021336) cited in the Official Action dated December 23, 2008.

In this regard, it will be observed that two identification arrows in the original version of Figure 1b have been updated with their appropriate legend. No "new matter" has been presented as the legends were clearly contemplated by the text of the originally filed specification.

With regard to the Examiner's specific objections, the applicant notes that the "air guiding layer" (i.e., the layer which guides the stripping gas (air) injected via the injecting lance to the biologically active layer) was in fact shown originally in Figure 1b. It is this "air guiding layer" which contains the medium with the lower resistance as compared to the resistance of the surrounding soil and which may be formed of a pipe positioned between the biologically active layer and the contaminated soil.

That the "air guiding layer" is in fact comprised of the lower-resistance "medium" is explicitly stated on page 6, lines 6-8 of the originally filed specification. (*"Figure 1b illustrates that by creating a medium whose resistance is lower than the resistance of the surrounding soil, which medium in Figure 1b is called 'air guiding layer'...."* (emphasis added))

Similarly, that the "medium" (which as noted above is shown schematically in Figure 1b as the "air guiding layer") may in the form of a pipe is evident from the description in the specification on page 4, lines 25-31. (*"...the medium whose resistance is lower than the resistance of the surrounding soil is created by installing at least one hollow pipe...between the contaminated soil and the biologically active layer...."*)

Thus, contrary to the Examiner's assertions, each of the "medium with lower resistance" and the "pipe between the bio layer and the contaminated soil" was in fact shown schematically in the originally filed version of Figure 1b as the "air guiding layer" therein.

Withdrawal of the objection to the drawings is therefore in order.

3. Response to 35 USC §102(b) Rejection

Original claims 1-8 attracted a rejection under 35 USC §102(b) as allegedly anticipated by the applicant's prior-published US Application 2001/0021336, corresponding to USP 6,547,489 (hereinafter referenced as "the US '336 publication"). Applicant suggests that all claims pending in this application are in fact novel and unobvious over the applied US '336 publication.

Specifically, what should not be overlooked when reviewing the patentability of the present invention is that, according to one embodiment, the "air guiding layer" causes the air to flow under an impermeable layer towards the biological layer. Such an embodiment is shown in Figure 1b. If the medium with a lower resistance is not present (i.e., as depicted in the prior art representation of Figure 1a) there is graphically shown a generally V- shaped region defined by the outlet of the injection lance and the ends of the impermeable layer where the stripping gas will not flow. As a consequence, the contaminated soil in the V-shaped region will not be remediated.

In contrast, the improvement of the present invention is that the gas flow towards the biological layer is improved by providing a medium with a lower resistance (or as it is called in Figure 1b an "air guiding layer"). If such a medium ("air guiding layer") is present, the V-shaped region will then actually participate in the flow of stripping gas (air) and is thus remediated. In the prior art situation shown by Figure 1a, however, this V-shaped region will not be remediated if the air guiding layer is absent.

According to the applied US '336 publication, the pneumatic lances 425 and 427 provide for a *pneumatic screen* that forcibly directs the polluted gas towards the biological layer.

As noted previously, the present invention provides an improvement on the method as disclosed in the US '336 publication in that a medium with a lower resistance is provided for the gas with entrained contaminants in order to create a "highway" for

such contaminated gas to reach the biological layer more effectively and more efficiently. The lances 425 and 427 of the US '336 publication do not create a medium with a lower resistance. On the contrary, such lances of the US '336 publication provide a pneumatic screen that forcibly directs the contaminated air towards the biological layer. As such it provides an alternative solution to the same problem. In case of the US '336 publication, the biological layer has to be exactly above the polluted region whereas in the present invention it can be at a different location. The lances 425, 427 in the US '336 publication cannot function as a medium with a lower resistance because they continuously produce a gas stream down into the ground. Indeed, a greater resistance is created in the soil by the injected gas via lances 425, 427 so as to create the pneumatic screen and thereby direct the stripping gas from lance 403 into the biologically active region.

The present invention also provides for the use of injection lances to create a medium with a lower resistance. However, in that case the lances should be filled with sand or a biological layer as detailed in the application and they should not guide any stripping gas downward but instead guide the polluted gas upward so that the contaminated gas reaches a biological layer more effectively.

Thus, for the reasons noted above, all pending claims herein are both novel and unobvious over the applied US '336 publication. Withdrawal of the same as a reference against the pending claims and early passage of this application to issue are therefore solicited.

4. Information Disclosure Statement

It is noted that the Examiner-initiated copy of the form PTO/FB/A820 submitted with the Information Disclosure Statement of June 15, 2006 has not yet been returned to the undersigned. It is therefore requested that the same be returned with the next official communication.

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The Examiner's attention is also directed toward the accompanying form PTO/FB/A820 which lists US Patent Nos. 6,547,489 and 6,742,961. As noted previously, the US '489 patent is the patent equivalent of US 2001/0021336 cited by the Examiner in the Official Action of December 23, 2008. The US '961 patent on the other hand issued from a continuation application of the US '489 patent.

Consideration of such information is requested, for which purpose the fee required by Rule 97(c) is attached.

5. Fee Authorization

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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